

REMARKS

Claims 24-46 have been added to this application. Claims 1-23 have been canceled without prejudice. In view of the above amendments and remarks that follow, Applicant respectfully requests favorable consideration and timely indication of allowance.

In the final Office action dated May 19, 2004, the Patent Office rejected claims 1-2, 4, 9-14, 16 and 21-23 under 35 U.S.C. §102(e) as allegedly being anticipated by Weaver et al. (U.S. Patent 6,421,005). The Patent Office also rejected claims 3, 5-8, 15 and 17-20 under 35 U.S.C. §103(a) as allegedly being unpatentable over Weaver et al. In support of these rejections, the Patent Office relied on its arguments presented in the first Office action dated November 24, 2003. Although Applicant does not agree with these rejections, to advance the prosecution of this case, claims 1-23 have been canceled without prejudice and not for reasons of patentability. New claims 24-46 have been added to better clarify the invention.

In cellular communications, antenna arrays may be used to form multiple antenna beam patterns with each antenna beam pattern directed to a sector of a cell. As communications traffic in a particular sector of the cell becomes more congested, the antenna array may be used to narrow the antenna beam pattern in that sector, and to increase the width of the antenna beam patterns in the other sectors. This simultaneous widening and narrowing of the beams among the sectors achieves load balancing throughout the cell. Weaver is an example of such a load balancing system.

Applicant discloses a novel and unobvious approach to form an antenna beam pattern. In CDMA systems each communications signal is separated from those of other users by uniquely coding the signal for each user. By using adaptive antenna array technology, a separate antenna beam pattern can be formed for each user, rather than for an entire sector. Each beam pattern can then be individually narrowed about its respective user, to minimize the interference between multiple users. This is entirely different than Weaver, which teaches narrowing a beam pattern that communicates with many users across an entire sector.

Referring now to the specific claims, Applicant submits that they recite subject matter which is neither disclosed nor suggested by Weaver. By way of example, claims 24 and 35 each recite an antenna that forms “antenna beam pattern to communicate with a single user to the exclusion of all other users”

The single-user antenna beam pattern is then narrowed about the user's position by using a statistic determined from a control signal sent by the user. Claims 24 and 35 recite "utilizing the statistic to narrow the antenna beam pattern"

Weaver et al. does not teach or suggest an antenna beam pattern that communicates with a single user to the exclusion of all other users. Instead, Weaver et al. involves an antenna beam pattern that covers an entire sector and that communicates with multiple users in that sector. Although the antenna beam pattern may be narrowed, it still covers multiple users.

Accordingly, claims 24 and 35 are not anticipated by Weaver et al., nor are they obvious in view of Weaver et al. Claims 25 through 34 and 36 through 45 are dependent from claims 24 and 35, respectively. Therefore, these claims respectively include all the limitations recited in claims 24 and 35. Hence, these claims are allowable for the same reasons set forth above, as well as the additional limitations recited. These additional limitations need not be addressed at this time because the limitations recited in claim 24 are sufficient to establish patentability.

REQUEST FOR ALLOWANCE

In view of the foregoing, Applicant submits that all pending claims in the application are patentable. Accordingly, reconsideration and allowance of this application is earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

Respectfully submitted,

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